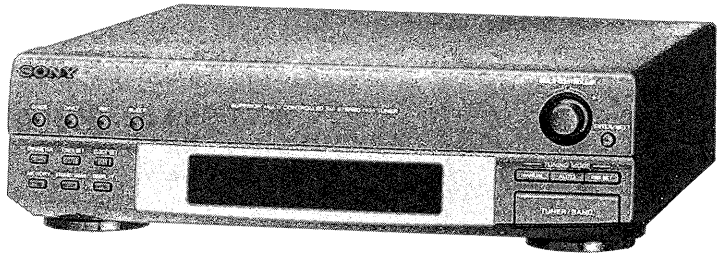
ST-EX100

SERVICE MANUAL

AEP Model
UK Model
E Model



This set is the tuner section in MHC-EX50/EX70AV/EX90/EX100AV.

Photo : E mode (SILVER)

SPECIFICATIONS

FM stereo, FM/AM superheterodyne tuner

FM tuner section

Tuning range 87.5 – 108.0 MHz (50 kHz step)
Aerial FM lead aerial
Aerial terminals 75 ohm unbalanced
Intermediate frequency 10.7 MHz

AM tuner section

Tuning range
Italian model:
AM: 522 – 1,611 kHz (with the interval set at 9 kHz)
German model:
AM: 531 – 1,602 kHz (with the interval set at 9 kHz)
E, Saudi Arabia, Thailand models:
AM: 531 – 1,602 kHz (with the interval set at 9 kHz)
530 – 1,710 kHz (with the interval set at 10 kHz)
Other models:
MW: 531 – 1,602 kHz (with the interval set at 9 kHz)
LW: 153 – 279 kHz (with the interval set at 3 kHz)
Aerial AM loop aerial, External aerial terminals
Intermediate frequency 450 kHz

Dimensions
Approx. 280 x 82.5 x 285 mm (11 1/8 x 3 1/4 x 11 1/4 in) (w/h/d) incl. projecting parts and controls
Mass Approx. 1.5 kg (3 lb 4 oz)

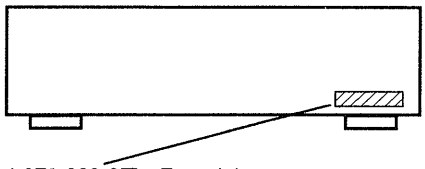
使用時は添付資料も参照のこと
Refer to the accompanying documents.

FM STEREO/FM-AM TIMER TUNER

SONY®

MODEL IDENTIFICATION

— Back Panel —



4-978-999-0□...E model
4-978-999-1□...AEP, UK, German, Italian, CIS model (Made in France)
4-978-999-2□...AEP, UK model (Made in Malaysia)
4-978-999-3□...Saudi Arabia model
4-978-999-4□...Thailand model

TABLE OF CONTENTS

Section	Title	Page
SECTION 1.	SERVICING NOTE	3
SECTION 2.	GENERAL	4
SECTION 3.	DISASSEMBLY	
3-1.	Panel Board	5
3-2.	Back Panel, Main Board and Polar Board	5
SECTION 4.	ELECTRICAL ADJUSTMENTS	6
SECTION 5.	DIAGRAMS	
5-1.	IC Block Diagrams	8
5-2.	Printed Wiring Board	11
5-3.	Schematic Diagram	13
5-4.	IC Pin Function	
	• IC201 System Control (μPD78013GC)	17
SECTION 6.	EXPLODED VIEW	19
SECTION 7.	ELECTRICAL PARTS LIST	20

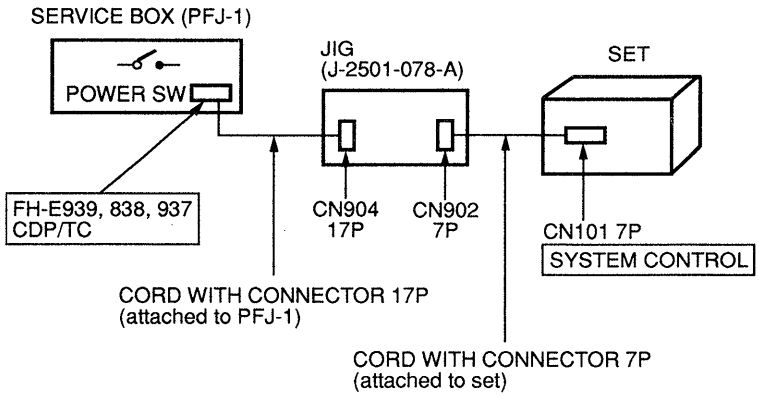
SAFETY-RELATED COMPONENT WARNING !!

COMPONENTS IDENTIFIED BY MARK ⚠ OR DOTTED LINE WITH MARK ⚠ ON THE SCHEMATIC DIAGRAMS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

SECTION 1
SERVICING NOTE

How to operate with a single unit.

Normally, this set is not operated with its own.
The exclusive jig (J-2501-078-A) and service box (PFJ-1) are necessary to operate the set with a single unit.
Turn the power set of the service box ON. Then press the ENTER/NEXT button and SLEEP button at the same time to turn the power on.



- **KEY/FL tube/LED check mode.**

To enter KEY/FL/LED check mode, press the ENTER/NEXT and REC buttons at the same time.
Under mode, every time when press any key or turn MULTI CONTROLLER knob, change to next situation.

① All LED indicators light on
② All FL tube indicators light on
③ A part of FL tube light on mode 1. (Indicated ST-SEG)
④ A part of FL tube light on mode 2. (Indicated RDS-SEG)
⑤ KEY check mode

Note :

1) All LED light on mode is keeped, when buttons which is pressed to enter all LED light on mode, release same time.
   When release them separate timing, it is moved to next All LED light on mode.

2) After all LED light on mode, light on point remove one by one, when any button pressed or MULTI CONTROLLER knob turned.

3) Under KEY check mode, every time buttons pressed numerical value of "KEY" in FL tube increse.
   And that time, numerical value of "ECDR" increse when MULTI CONTROLLER button turn to + direction, and it decrese turn to – direction.

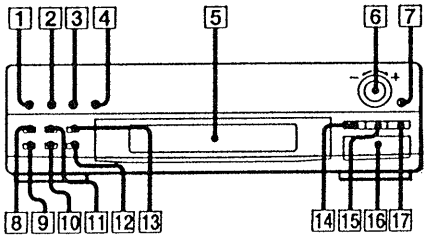
When you want to finish this mode, unplug the power of amplifire or turn off PFJ-1 of POWER switch.

SECTION 2
GENERAL

This section is extracted from instruction manual.

Index to Parts and Controls

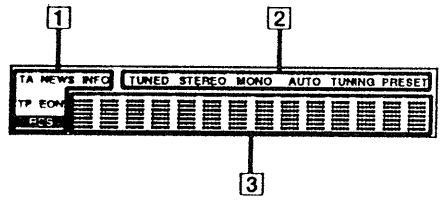
Front Panel



1 ONCE button* (25, 26)
2 DAILY button* (25, 26)
3 REC button* (26)
4 SLEEP button* (25)
5 Display window (6, 10, 25)
6 MULTI CONTROLLER* (6, 10, 11, 13, 26)
7 ENTER/NEXT button* (6, 11, 26)
8 CHARACTER button (11)
9 EON (Enhanced Other Networks) button (12) (AEP, UK, G, IT)
MEMORY button (E, EA, CIS,TH)
10 PTY (Programme Type) button (13) (AEP, G, IT, UK)
STEREO/MONO button (E, EA, CIS, TH)
11 TIMER SET button (25)
12 DISPLAY button (11, 12)
13 CLOCK SET button (6)
14 STEREO/MONO button (10)
MANUAL button (E, EA, CIS, TH)
15 TUNING MODE button (10) (AEP, UK, G, IT)
AUTO button (E, EA, CIS, TH)
16 TUNER/BAND button (10, 18, 30)
17 MEMORY button (11) (AEP, UK, G, IT)
PRESET button (E, EA, CIS, TH)

• Abbreviation
G : German model.
IT : Italian model.
EA : Saudi Arabia model.
TH : Thailand model

Display Window

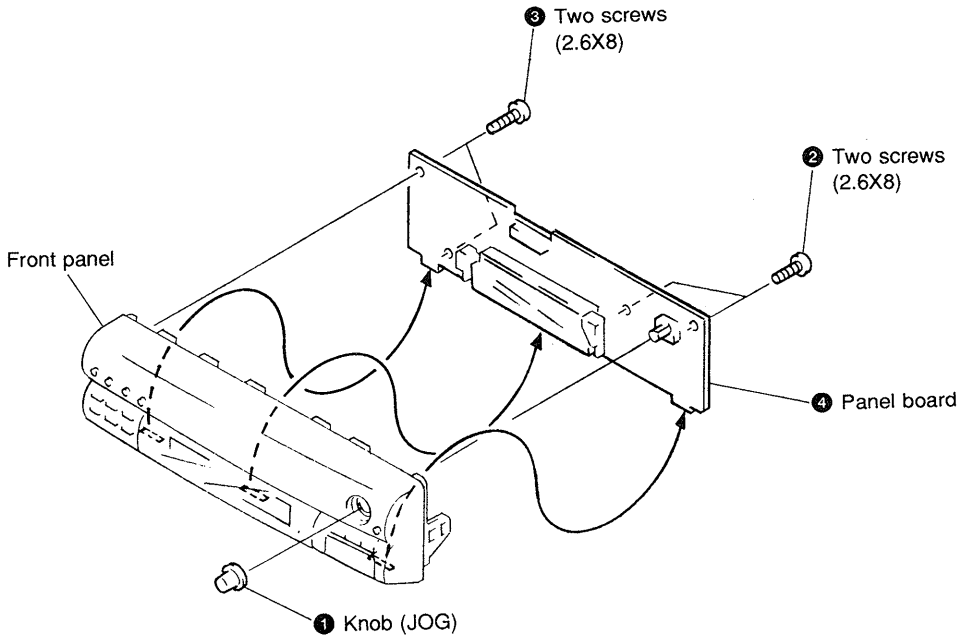


1 RDS service indications (12) (AEP, UK, G, IT)
2 Tuner indication (10)
3 Frequency/station name/time/timer indication (6, 10, 11, 25)

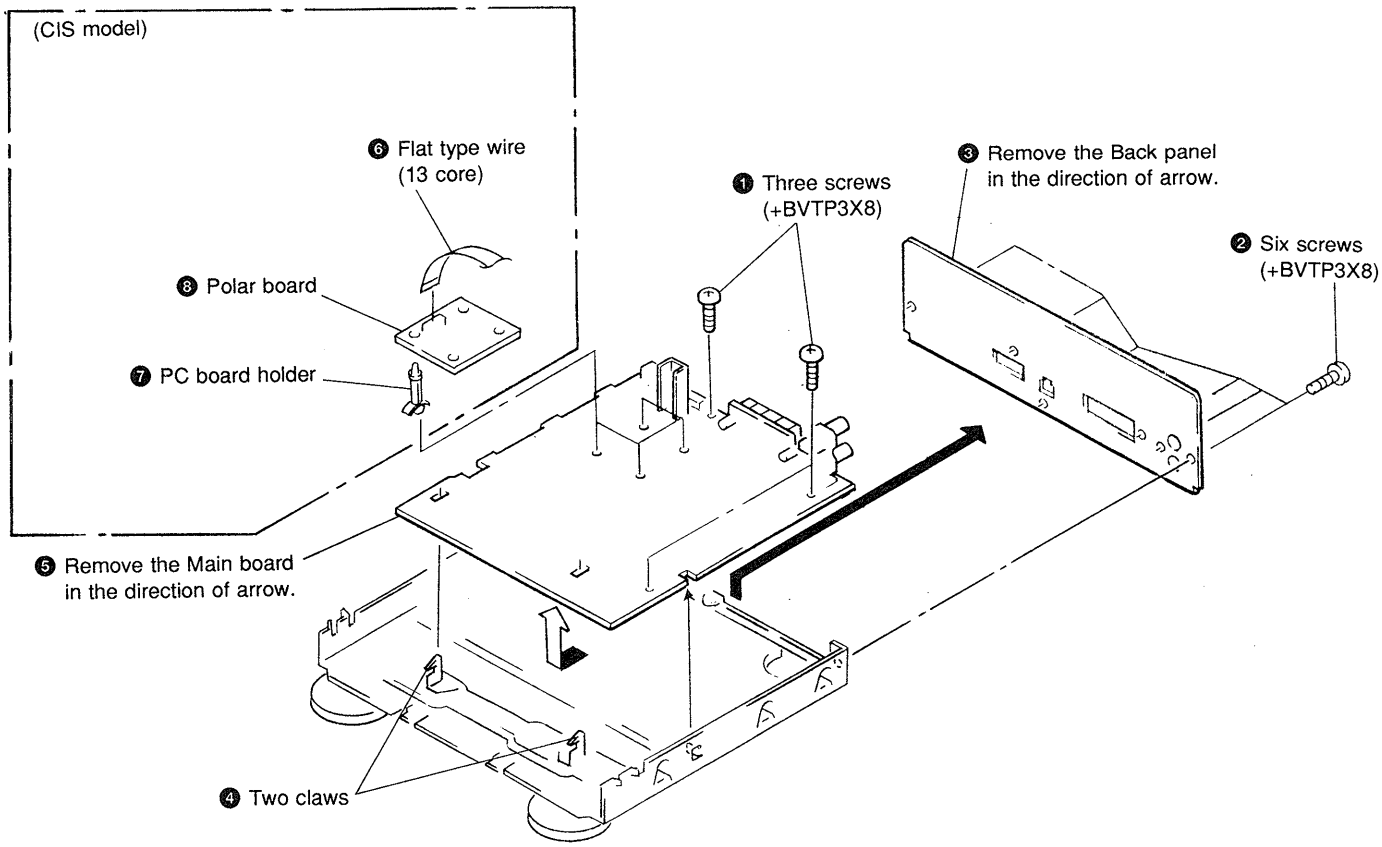
SECTION 3
DISASSEMBLY

Note : Follow the disassembly procedure in the numerical order given.

3-1. PANEL BOARD



3-2. BACK PANEL, MAIN BOARD AND POLAR BOARD



SECTION 4
ELECTRICAL ADJUSTMENTS

Precautions in Repairing

If the front unit fails, it is difficult to repair the inner circuits, so replace the entire front end unit.

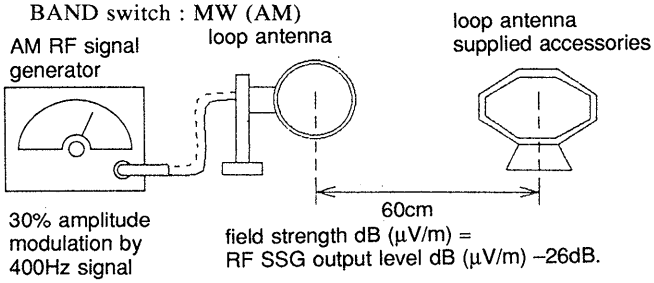
The FM TUNED level must be adjusted after the AM TUNED level adjustment has completed.

AM SECTION

AM Tuning Level Adjustment

Setting :

BAND switch : MW (AM)



30% amplitude modulation by 400Hz signal

field strength dB (μV/m) = RF SSG output level dB (μV/m) –26dB.

Carrier frequency : 999kHz (at 9k step)
1,000kHz (at 10k step)

Output level : 25dBμ

Procedure :

1. Set loop antenna A so that the loop antenna B input level becomes 55dBμ/m.
2. Tune the set to 999kHz or 1,000 kHz.
3. Adjust RV1 so that the TUNED indicator goes on.

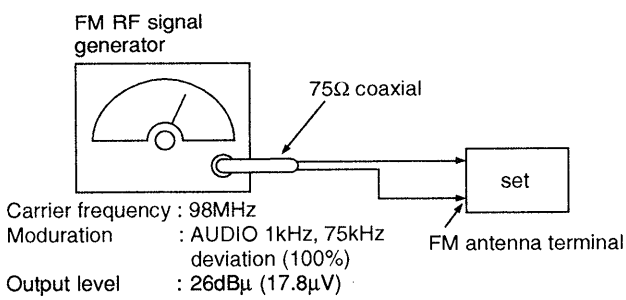
Adjustment Location : MAIN board. (See page 7)

FM SECTION

FM Tuning Level Adjustment

Setting :

BAND switch : FM



Carrier frequency : 98MHz
Moduration : AUDIO 1kHz, 75kHz deviation (100%)
Output level : 26dBμ (17.8μV)

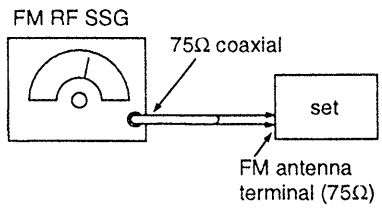
Procedure :

1. Tune the set to 98MHz.
2. Adjust RV2 so that the TUNED indicator goes on.

Adjustment Location : MAIN board. (See page 7)

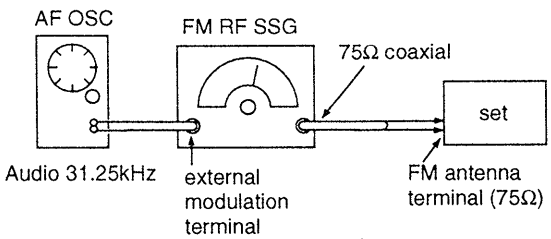
FM Polar Adjustment (CIS model only)

Connection 1 :



Carrier frequency : 69MHz
Output level : 1mV (60dBμ) (at 75Ω open)
Modulation : AUDIO 1kHz, 10kHz deviation

Connection 2 :



Carrier frequency : 69MHz
Output level : 1mV (60dBμ) (at 75Ω open)
Modulation : AUDIO 31.25kHz, 10kHz deviation (EXTERNAL MODULATION)

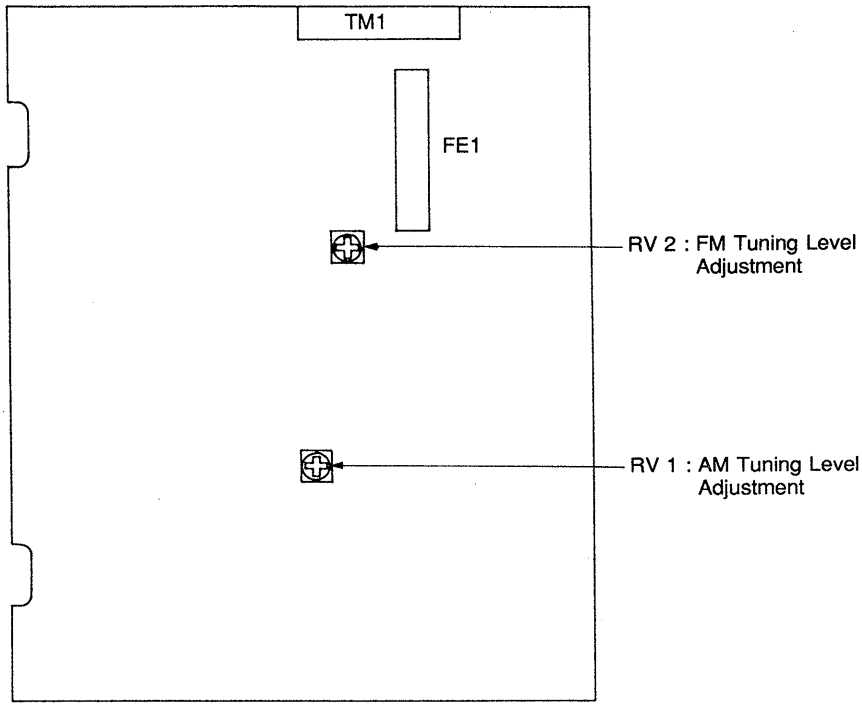
Procedure :

1. Set the modulation of FM RF SSG to AUDIO 1 kHz, 10 kHz deviation according to "Connection 1".
2. Tune the set to 69 MHz.
3. Adjust the RV1702 so that the reading of frequency counter connected to TP1702 becomes within 31.25 kHz ± 0.05 kHz. (VCO frequency adjustment)
4. Then record the reading of the level meter connected to TP1701.
5. Set the modulation of FM RF SSG to AUDIO 31.25 kHz, 10 kHz deviation according to "Connection 2".
6. Tune the set to 69 MHz.
7. Set the CT1701 to be mechanical center.
8. Adjust the L1701 so that the reading of the level meter connected to TP1701 becomes maximum.
   Then adjust the CT1701 so that the reading of the level meter connected to TP1701 becomes maximum. (SUB CARRIER PEAK Adjustment)
9. Adjust the RV1701 so that the level at the moment becomes 14 dB higher value than the level recorded in step 4. (SUB CARRIER LEVEL Adjustment)

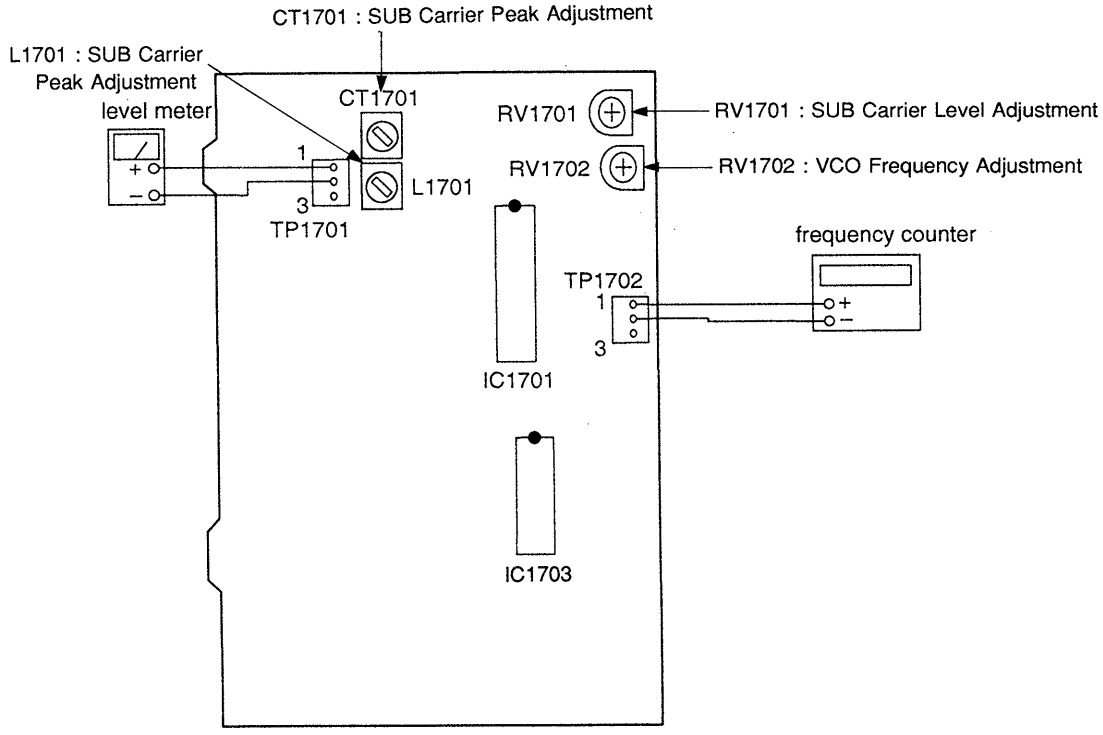
Adjustment Location : Polar board. (See page 7)

Adjustment Location

[MAIN BOARD] — Component side —



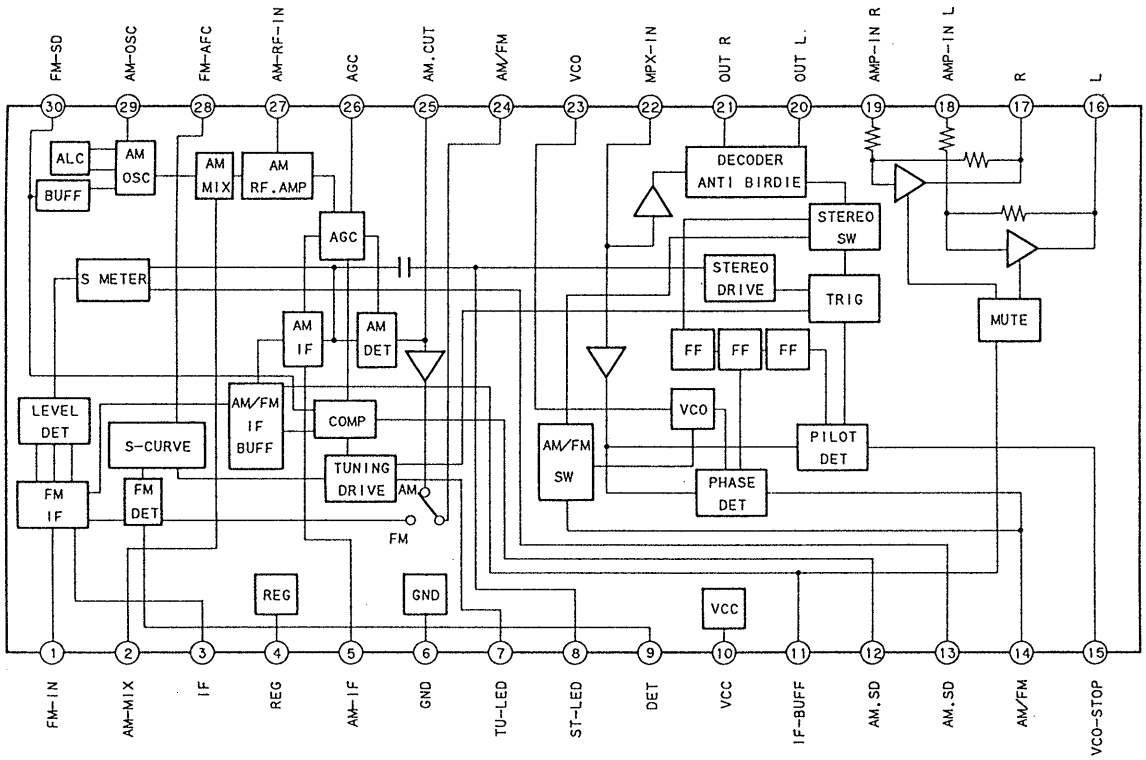
[POLAR BOARD] — Component side —



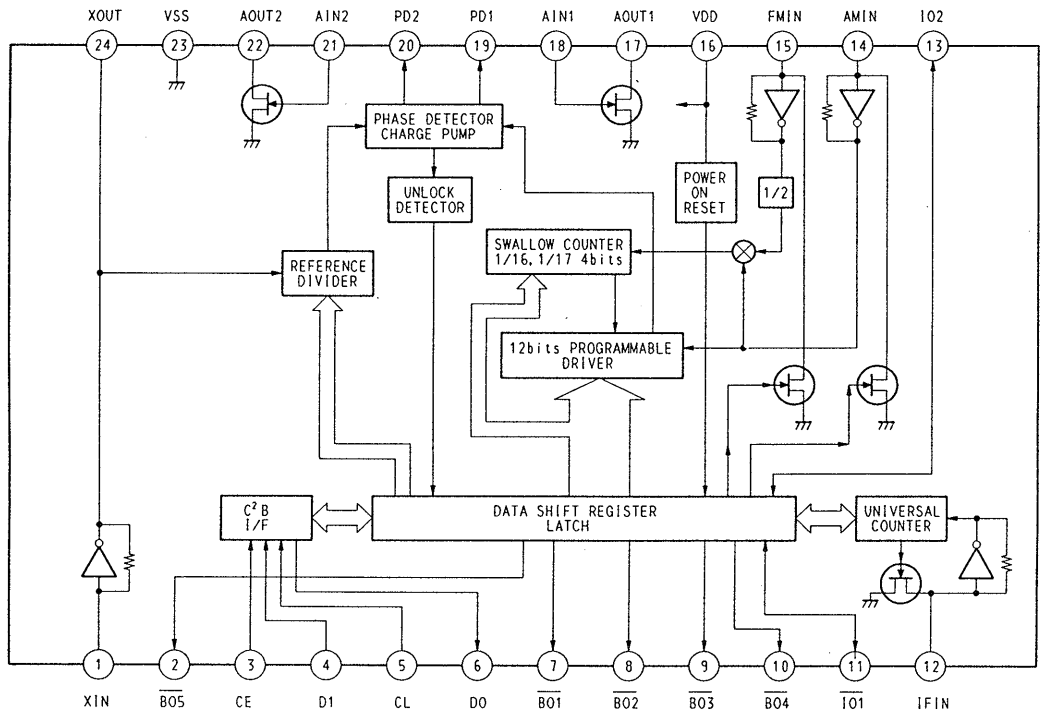
SECTION 5
DIAGRAMS

5-1. IC BLOCK DIAGRAMS

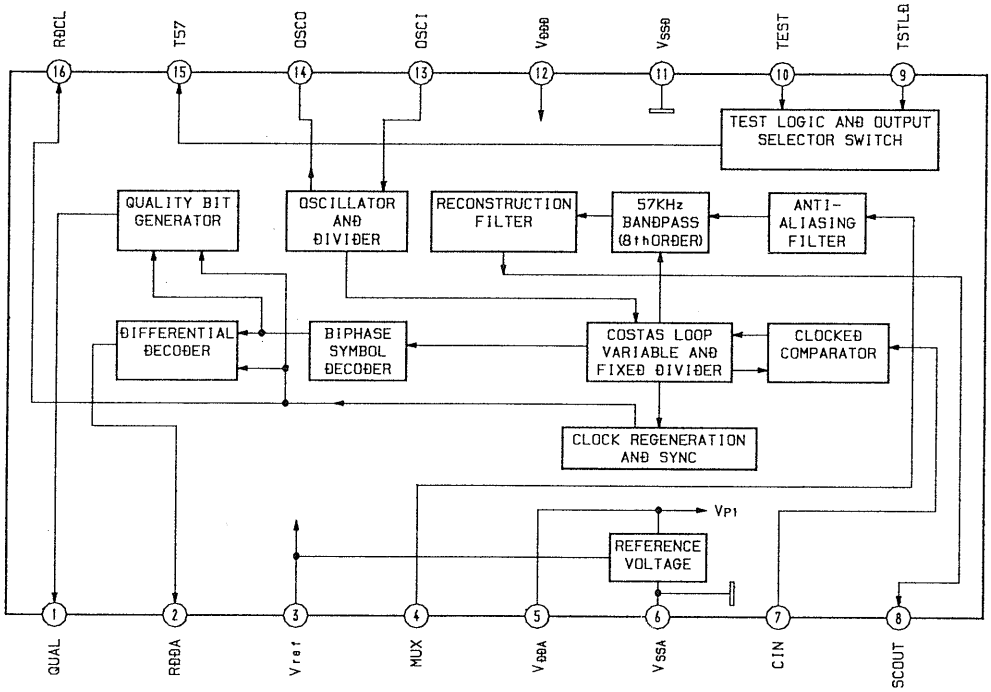
IC1 LA1835



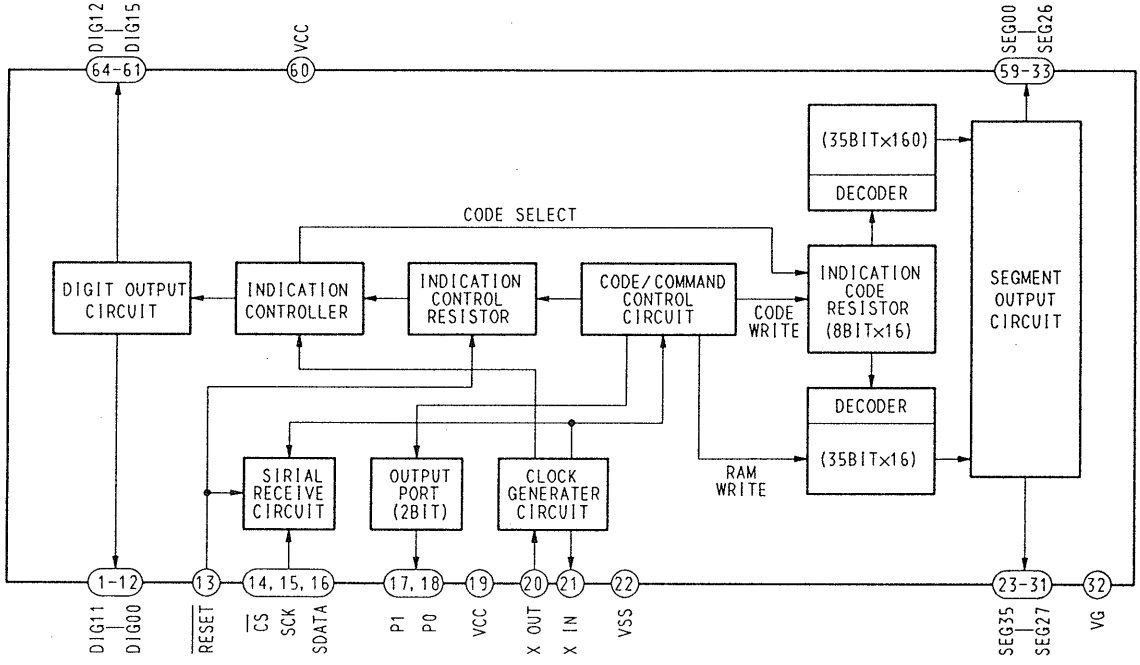
IC51 LC72130



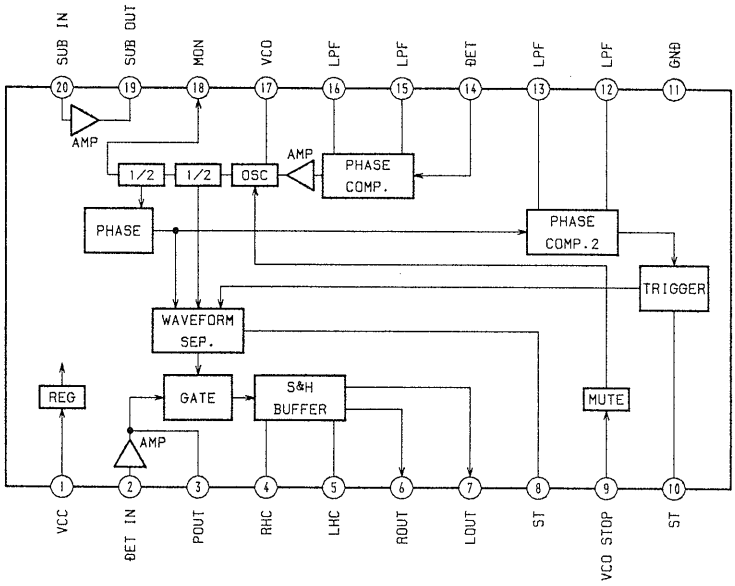
IC302 SAA6579



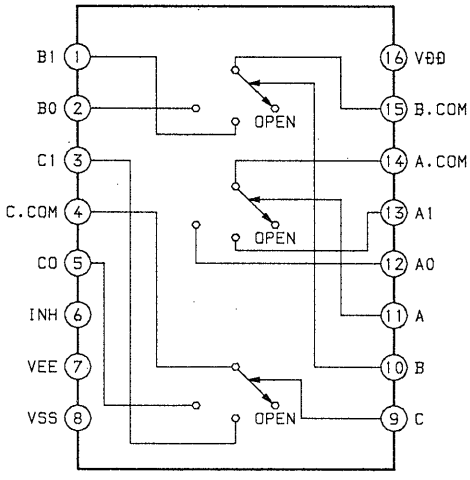
IC601 M66004M6FP



IC1701 IR3R42



IC1703 MC14053BCP



5-2. PRINTED WIRING BOARD

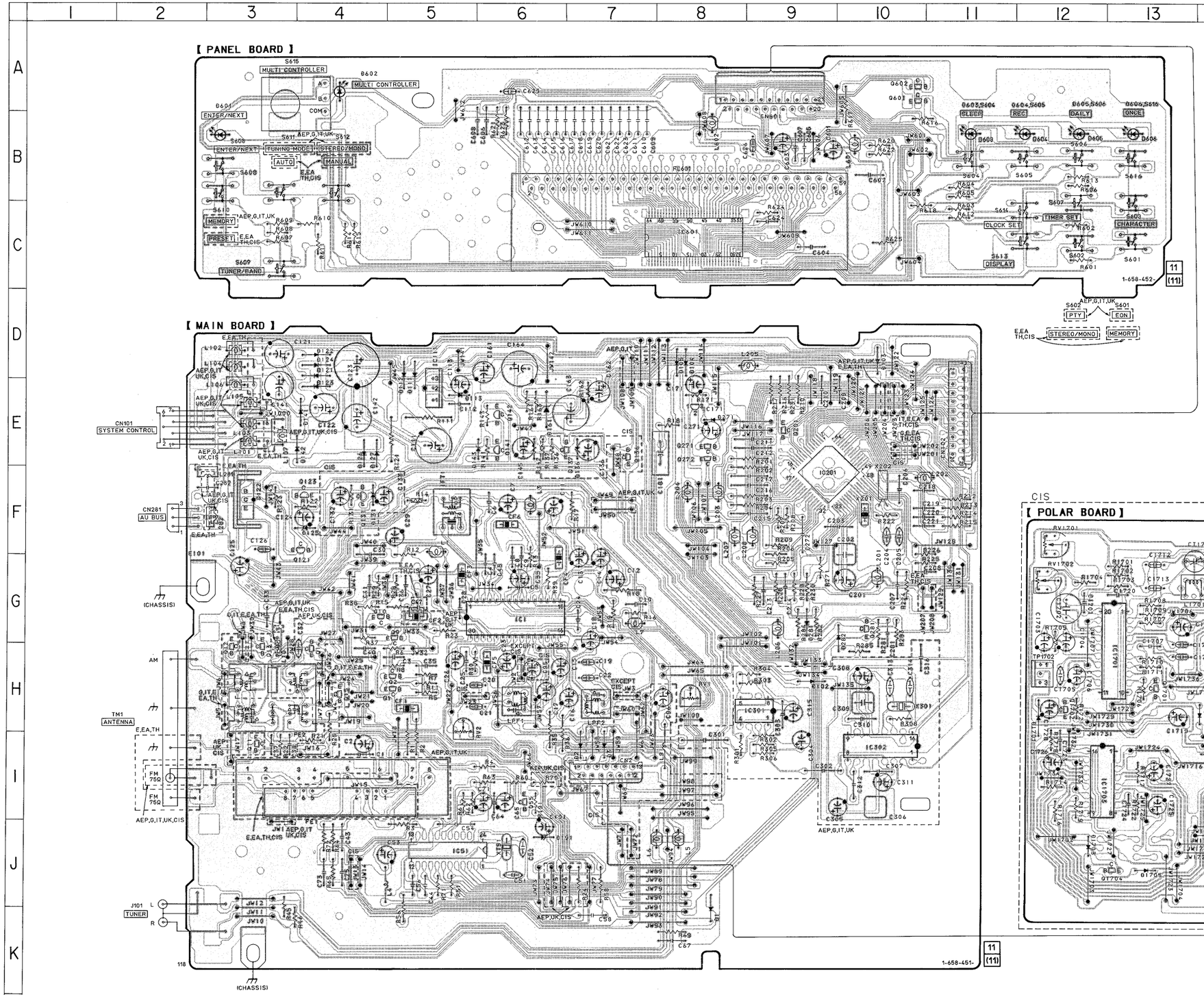
Note:

- ○——— : parts extracted from the component side.
- ——— : parts extracted from the conductor side.
- △ : internal component.
- ▭ : Pattern from the side which enable seeing.

- Abbreviation
  - G : German model.
  - IT : Italian model.
  - EA : Saudi Arabia model.
  - TH : Thailand model.

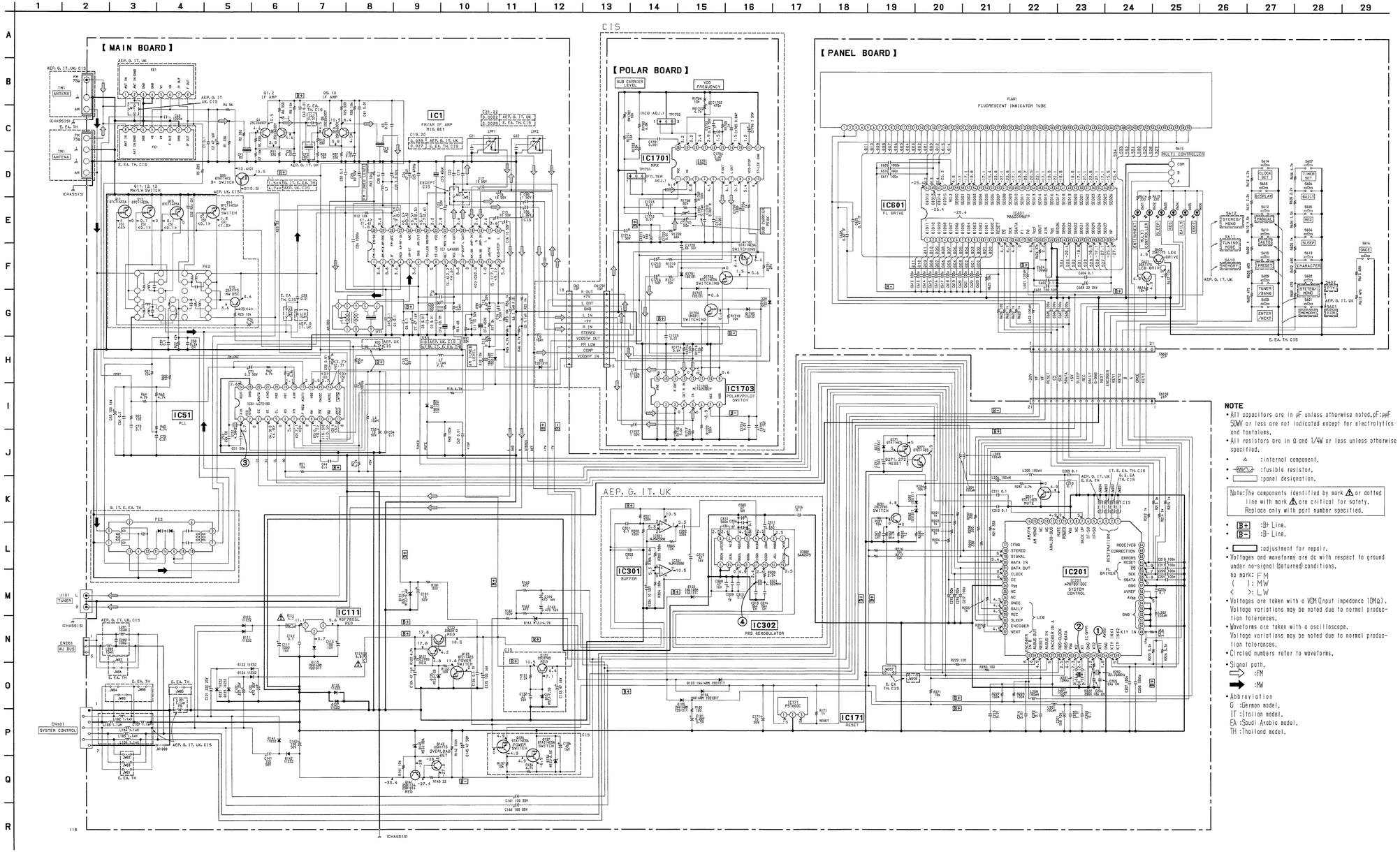
- **Semiconductor Location**

Ref. No.	Location	Ref. No.	Location
D1	K-8	IC1	G-6
D2	I-7	IC51	J-5
D3	I-7	IC111	E-5
D102	H-9	IC171	E-8
D103	D-10	IC201	F-9
D104	D-8	IC301	H-9
D105	D-8	IC302	I-10
D111	D-5	IC601	C-8
D112	D-5	IC1701	H-3
D113	E-5	IC1703	I-12
D121	E-4		
D122	D-4	Q1	H-5
D123	E-4	Q2	H-5
D124	D-4	Q9	G-5
D125	F-4	Q10	G-4
D126	E-4	Q11	I-3
D127	E-4	Q12	H-3
D131	F-4	Q13	H-3
D136	E-7	Q14	H-4
D141	E-4	Q15	H-4
D142	E-4	Q55	I-6
D143	E-6	Q121	F-4
D161	E-6	Q122	F-3
D191	J-6	Q123	F-4
D271	E-8	Q131	F-4
D281	G-9	Q136	E-7
D282	G-10	Q137	E-7
D601	B-3	Q141	E-6
D602	A-4	Q142	E-6
D603	B-11	Q201	E-9
D604	B-12	Q271	E-8
D605	B-12	Q272	E-8
D606	B-13	Q281	G-10
D1701	H-12	Q601	A-10
D1703	J-12	Q602	A-10
D1704	H-14	Q1701	H-13
D1705	J-13	Q1702	H-12
		Q1704	J-13



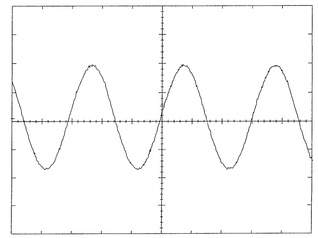
5-3. SCHEMATIC DIAGRAM

• See page 6 for IC Block Diagrams.
• See page 17 for IC Pin Function. (IC201)

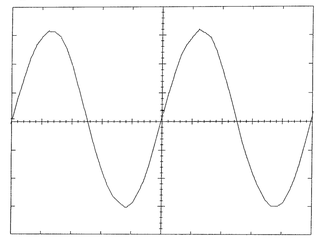

【MAIN BOARD】
【POLAR BOARD】
【PANEL BOARD】
CIS
AEP, G, IT, UK
IC1
IC51
IC111
IC171
IC201
IC301
IC302
IC601
IC1701
IC1703
NOTE
• All capacitors are in μF unless otherwise noted. pF: pμF
50WV or less are not indicated except for electrolytics and tantalums.
• All resistors are in Ω and 1/4W or less unless otherwise specified.
• △ : internal component.
• : fusible resistor.
• : panel designation.
Note: The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.
• B+ : B+ Line.
• B− : B− Line.
• : adjustment for repair.
• Voltages and waveforms are dc with respect to ground under no-signal (detuned) conditions.
no mark: FM
( ): MW
< >: LW
• Voltages are taken with a VOM (Input impedance 10MΩ). Voltage variations may be noted due to normal production tolerances.
• Waveforms are taken with a oscilloscope. Voltage variations may be noted due to normal production tolerances.
• Circled numbers refer to waveforms.
• Signal path.
: FM
: MW
• Abbreviation
G : German model.
IT : Italian model.
EA : Saudi Arabic model.
TH : Thailand model.

• Waveforms

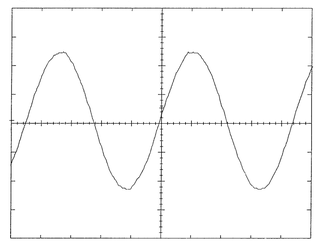
① IC201 ㊽ pin 1.8 Vp-p 32.768 kHz



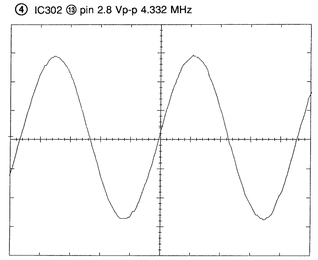
② IC201 ㊾ pin 3.1 Vp-p 10 MHz



③ IC51 ① pin 2.4 Vp-p 4.5 MHz



④ IC302 ⑲ pin 2.8 Vp-p 4.332 MHz



5-4. IC PIN FUNCTION

- **IC201 SYSTEM CONTROL (μPD78013GC)**

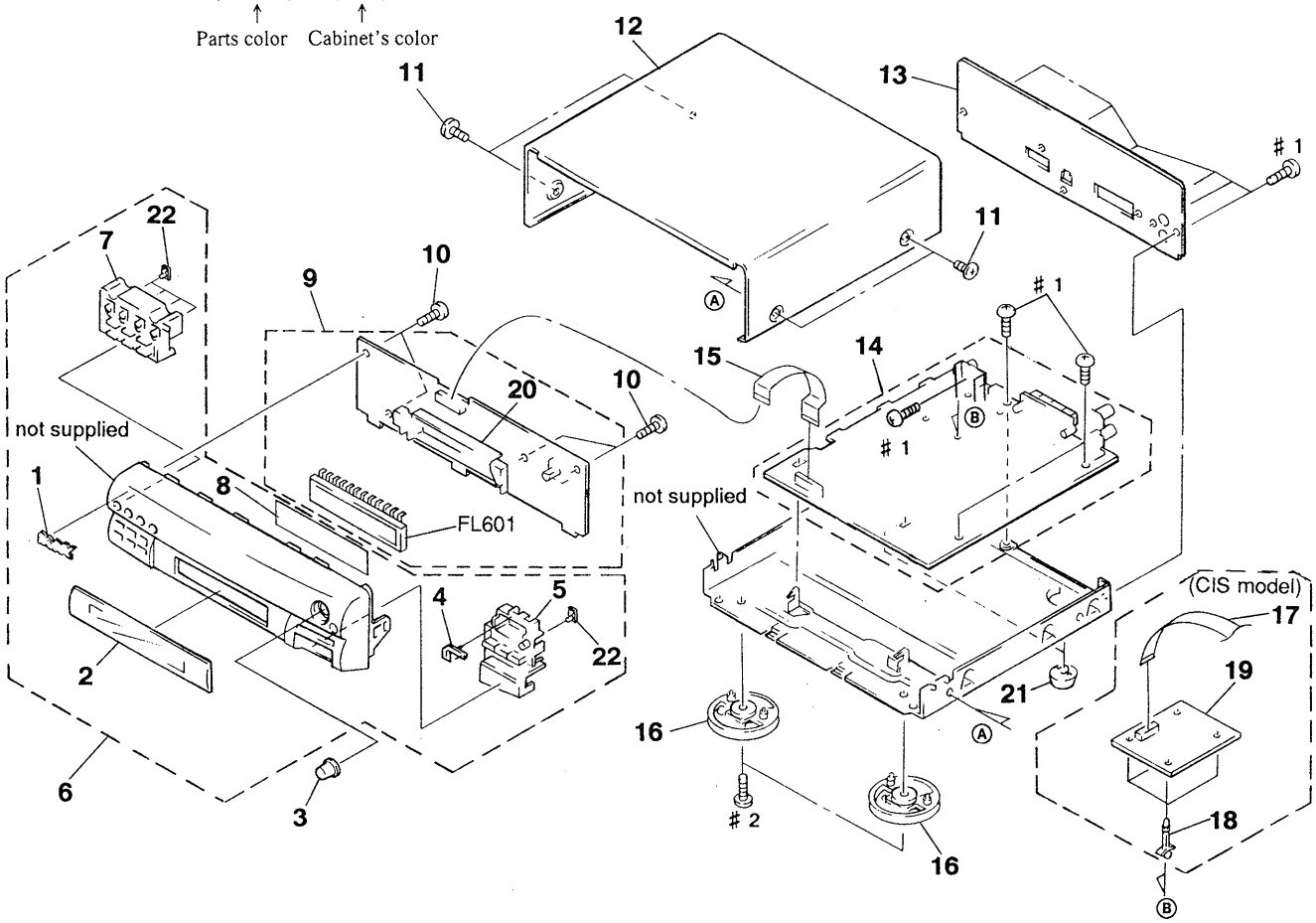
Pin No.	Pin Name	I/O	Function
1	DESTINATION	I	Destination selection input.
2	DESTINATION	I	
3	DESTINATION	I	
4	DESTINATION	I	
5	IF +50	I	Not used. (Ground)
6	IF –50	O	
7	BACK UP	I	Back up mode input.
8	NC	–	Not used. (open)
9	Vss	–	Ground
10	$\overline{\text{POWER}}$	O	Power ON/OFF switch control.
11	MUTE	O	Mute output.
12	ANALOG BUS	–	Not used. (open)
13	NC	–	
14	NC	–	
15	AM MONO	–	
16	AM/FM	–	
17	IFNG	–	
18	STEREO	I	STEREO signal input.
19	SIGNAL	I	TUNED signal input.
20	DATA IN	I	Data input. (LC72130, PLL)
21	DATA OUT	O	Data output. (LC72130, PLL)
22	CLOCK	O	Clock output. (LC72130, PLL)
23	CE	O	Chip Enable output. (LC72130, PLL)
24	Vss	–	Ground
25	NC	–	Not used. (open)
26	NC	–	
27	ONCE	O	LED drive output.
28	DAILY	O	
29	REC	O	
30	SLEEP	O	
31	ENCODER	O	
32	NEXT	O	
33	ENCODER IN B	I	ENCODER input. (B)
34	AU BUS OUT	O	Audio bus output.
35	RESET	I	SYSTEM RESET input.
36	AU BUS IN	I	Audio bus input.
37	ENCODER IN A	I	ENCODER input. (A)
38	RDS-CLOCK	I	RDS clock input.
39	RDS-DATA	I	RDS data input.
40	VDD	–	Power supply 5V.

Pin No.	Pin Name	I/O	Function
41	X2	O	System main clock. (10 MHz)
42	X1	I	
43	GND	–	Ground
44	XT2	O	System sub clock. (32.768 kHz)
45	XT1	I	
46	GND	–	Ground
47	KEY IN K1	I	Key input. (analog)
48	KEY IN K2	I	
49	KEY IN	I	
50	GND	–	Ground
51	GND	–	
52	GND	–	
53	GND	–	
54	GND	–	
55	AV_{DD}	–	Analog power supply +5V.
56	AV_{REF}	–	Analog system reference voltage input.
57	GND	–	Ground
58	SDATA	O	Fluorescent tube data output. (IC601)
59	SCK	O	Fluorescent tube clock output. (IC601)
60	$\overline{CS}$	O	Fluorescent tube chip select signal output. (IC601)
61	RESET	O	Fluorescent tube reset signal output. (IC601)
62	ERRORS	I	Note used. (open)
63	CORRECTION	O	
64	RECEIVED	O	

SECTION 6
EXPLODED VIEW

NOTE:

- Items marked " * " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- Color Indication of Appearance Parts Example:
  KNOB, BALANCE (WHITE) . . . (RED)
  ↑ Parts color ↑ Cabinet's color
- The mechanical parts with no reference number in the exploded views are not supplied.
- Hardware (# mark) list and accessories and packing materials are given in the last of this parts list.
- Abbreviation
  G : German model
  IT : Italian model
  EA : Saudi Arabia model
  TH : Thailand model



Ref. No.	Part No.	Description	Remark
1	4-962-708-11	EMBLEM (4-A), SONY	
2	X-4946-909-1	WINDOW (FL) ASSY (for SILVER)	
2	X-4946-912-1	WINDOW (FL) ASSY (for BLACK)	
3	4-977-680-11	KNOB (JOG) (GRAY)... (SILVER)	
3	4-977-680-21	KNOB (JOG) (BLACK)... (BLACK)	
4	4-977-705-11	INDICATOR (JOG)	
5	4-977-704-11	BUTTON (BAND) (GRAY)... (SILVER)	(AEP, UK, G, IT)
5	4-977-704-21	BUTTON (BAND) (GRAY)... (SILVER)	(E, CIS, EA, TH)
5	4-977-704-31	BUTTON (BAND) (BLACK)... (BLACK)	(AEP, UK, G, IT)
6	X-4946-594-1	PANEL ASSY (S), FRONT (SILVER) (E, EA)	
6	X-4946-834-1	PANEL ASSY (BP), FRONT (BLACK)	(AEP, UK, G, IT)
6	X-4946-956-1	PANEL ASSY (SP), FRONT (SILVER) (CIS, TH)	
6	X-4946-965-1	PANEL ASSY (SP), FRONT (SILVER)	(AEP, UK, G, IT)
7	4-977-703-11	BUTTON (TIMER) (GRAY)... (SILVER)	(AEP, UK, G, E, CIS, EA, TH)
7	4-977-703-21	BUTTON (TIMER) (BLACK)... (BLACK)	(AEP, UK, G, IT)
8	4-979-353-11	FILTER (MD)	
* 9	A-4378-851-A	PANEL BOARD, COMPLETE (E, EA, TH)	
* 9	A-4378-864-A	PANEL BOARD, COMPLETE (AEP, UK, G, IT, CIS)	
10	4-951-620-01	SCREW (2.6X8), +BVTP	
11	3-363-099-01	SCREW (CASE 3 TP2)	
* 12	4-970-927-21	CASE (BLACK)	
* 12	4-970-927-41	CASE (SILVER)	
* 13	4-978-999-01	PANEL, BACK (E)	
* 13	4-978-999-11	PANEL, BACK (Made in France)	(AEP, UK, G, IT, CIS)
* 13	4-978-999-21	PANEL, BACK (Made in Malaysia) (AEP, UK)	
* 13	4-978-999-31	PANEL, BACK (EA)	
* 13	4-978-999-41	PANEL, BACK (TH)	
* 14	A-4378-850-A	MAIN BOARD, COMPLETE (E, EA, TH)	
* 14	A-4378-863-A	MAIN BOARD, COMPLETE (AEP, UK)	
* 14	A-4378-865-A	MAIN BOARD, COMPLETE (G)	
* 14	A-4389-478-A	MAIN BOARD, COMPLETE (IT)	
* 14	A-4389-479-A	MAIN BOARD, COMPLETE (CIS)	
15	1-773-144-11	WIRE (FLAT TYPE) (21 CORE)	
16	4-977-699-11	LEG (F)	
17	1-751-688-11	WIRE (FLAT TYPE) (13 CORE) (CIS)	
18	4-924-098-91	HOLDER, PC BOARD (CIS)	
* 19	A-4389-480-A	POLAR BOARD, COMPLETE (CIS)	
* 20	4-979-798-01	HOLDER (FL)	
21	4-965-822-01	FOOT	
22	4-977-674-11	INDICATOR (ENTER)	
FL601	1-517-368-11	INDICATOR TUBE, FLUORESCENT	

MAIN

SECTION 7
ELECTRICAL PARTS LIST

NOTE:

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

When indicating parts by reference number, please include the board name.

- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- -XX, -X mean standardized parts, so they may have some difference from the original one.
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- RESISTORS
  All resistors are in ohms
  METAL: Metal-film resistor
  METAL OXIDE: Metal Oxide-film resistor
  F : nonflammable
- SEMICONDUCTORS
  In each case, u: μ , for example:
  uA...: μA..., uPA...: μPA..., uPB...: μPB..., uPC...: μPC..., uPD...: μPD...
- CAPACITORS
  uF : μF
- COILS
  uH : μH
- Abbreviation
  G : German model
  IT : Italian model
  EA : Saudi Arabia model
  TH : Thailand model

Ref. No.	Part No.	Description			Remark
*	A-4378-863-A	MAIN BOARD, COMPLETE (AEP, UK)			
		**********			
*	A-4378-850-A	MAIN BOARD, COMPLETE (E, EA, TH)			
		**********			
*	A-4378-865-A	MAIN BOARD, COMPLETE (G)			
		**********			
*	A-4389-478-A	MAIN BORAD, COMPLETE (IT)			
		**********			
*	A-4389-479-A	MAIN BOARD, COMPLETE (CIS)			
		**********			
	7-685-646-79	SCREW +BVTP 3X8 TYPE2 N-S			
		< CAPACITOR >			
C1	1-164-159-21	CERAMIC	0.1uF		50V
C2	1-126-967-11	ELECT	47uF	20%	16V
C3	1-162-306-11	CERAMIC	0.01uF	30%	16V
C4	1-164-159-21	CERAMIC	0.1uF		50V
C5	1-164-159-21	CERAMIC	0.1uF		50V
C6	1-164-159-21	CERAMIC	0.1uF		50V
C7	1-126-967-11	ELECT	47uF	20%	16V
C8	1-162-306-11	CERAMIC	0.01uF	30%	16V
C9	1-162-306-11	CERAMIC	0.01uF	30%	16V
C10	1-162-306-11	CERAMIC	0.01uF	30%	16V
C11	1-126-964-11	ELECT	10uF	20%	50V
C12	1-124-902-00	ELECT	0.47uF	20%	50V
C13	1-124-903-11	ELECT	1uF	20%	50V
C14	1-124-903-11	ELECT	1uF	20%	50V
C15	1-126-964-11	ELECT	10uF	20%	50V
C16	1-126-964-11	ELECT	10uF	20%	50V
C17	1-126-964-11	ELECT	10uF	20%	50V
C18	1-126-964-11	ELECT	10uF	20%	50V
C19	1-136-160-00	FILM	0.039uF	5%	50V (AEP, G, IT, UK)
C19	1-136-158-00	FILM	0.027uF	5%	50V (E, EA, TH, CIS)
C20	1-136-160-00	FILM	0.039uF	5%	50V (AEP, G, IT, UK)
C20	1-136-158-00	FILM	0.027uF	5%	50V (E, EA, TH, CIS)
C21	1-137-389-11	FILM	0.0022uF	5%	100V (AEP, G, IT, UK)
C21	1-137-436-11	FILM	0.0039uF	5%	50V (E, EA, TH, CIS)
C22	1-137-389-11	FILM	0.0022uF	5%	100V (AEP, G, IT, UK)
C22	1-137-436-11	FILM	0.0039uF	5%	50V (E, EA, TH, CIS)
C23	1-124-903-11	ELECT	1uF	20%	50V
C24	1-162-294-31	CERAMIC	0.001uF	10%	50V
C25	1-162-600-11	CERAMIC	0.0047uF	30%	16V
C26	1-126-967-11	ELECT	47uF	20%	16V
C27	1-126-962-11	ELECT	3.3uF	20%	50V
C28	1-164-159-21	CERAMIC	0.1uF		50V
C29	1-126-964-11	ELECT	10uF	20%	50V
C30	1-164-159-21	CERAMIC	0.1uF		50V
C32	1-102-527-11	CERAMIC	82PF	5%	50V (AEP, UK, CIS)
C33	1-162-306-11	CERAMIC	0.01uF	30%	16V
C35	1-162-306-11	CERAMIC	0.01uF	30%	16V
C36	1-162-306-11	CERAMIC	0.01uF	30%	16V
C37	1-164-159-21	CERAMIC	0.1uF		50V
C38	1-162-198-31	CERAMIC	8.2PF	10%	50V
C40	1-162-306-11	CERAMIC	0.01uF	30%	16V
C41	1-162-306-11	CERAMIC	0.01uF	30%	16V
C43	1-162-294-31	CERAMIC	0.001uF	10%	50V
C44	1-164-159-21	CERAMIC	0.1uF		50V
C45	1-164-159-21	CERAMIC	0.1uF		50V
C47	1-102-129-00	CERAMIC	0.01uF	10%	50V (E, EA, TH, CIS)
C51	1-102-518-11	CERAMIC	33PF	5%	50V
C52	1-102-959-00	CERAMIC	22PF	5%	50V
C53	1-126-964-11	ELECT	10uF	20%	50V
C54	1-164-159-21	CERAMIC	0.1uF		50V
C55	1-126-933-11	ELECT	100uF	20%	10V
C56	1-162-294-31	CERAMIC	0.001uF	10%	50V
C58	1-162-306-11	CERAMIC	0.01uF	30%	16V
C64	1-164-159-21	CERAMIC	0.1uF		50V
C65	1-126-933-11	ELECT	100uF	20%	16V
C67	1-162-306-11	CERAMIC	0.01uF	30%	16V
C71	1-124-925-11	ELECT	2.2uF	20%	100V
C73	1-164-159-21	CERAMIC	0.1uF		50V
C75	1-162-306-11	CERAMIC	0.01uF	30%	16V
C95	1-124-903-11	ELECT	1uF	20%	50V (CIS)

Ref. No.	Part No.	Description			Remark
C96	1-124-903-11	ELECT	1uF	20%	50V (CIS)
C111	1-126-952-11	ELECT	1000uF	20%	16V
C112	1-164-159-21	CERAMIC	0.1uF		50V
C113	1-126-933-11	ELECT	100uF	20%	10V
C121	1-104-666-11	ELECT	220uF	20%	25V
C122	1-104-666-11	ELECT	220uF	20%	25V
C123	1-126-951-11	ELECT	470uF	20%	35V
C124	1-126-967-11	ELECT	47uF	20%	16V
C125	1-126-933-11	ELECT	100uF	20%	16V
C126	1-136-165-00	FILM	0.1uF	5%	50V
C132	1-126-967-11	ELECT	47uF	20%	16V (CIS)
C133	1-126-967-11	ELECT	47uF	20%	16V (CIS)
C136	1-126-967-11	ELECT	47uF	20%	16V (CIS)
C141	1-126-968-11	ELECT	100uF	20%	50V
C142	1-126-968-11	ELECT	100uF	20%	50V
C145	1-126-967-11	ELECT	47uF	20%	50V
C161	1-126-948-11	ELECT	100uF	20%	35V
C162	1-126-948-11	ELECT	100uF	20%	35V
C163	1-126-935-11	ELECT	470uF	20%	16V
C164	1-126-935-11	ELECT	470uF	20%	16V
C171	1-126-964-11	ELECT	10uF	20%	50V
C181	1-125-705-11	CAPACITOR	0.22F	0	5.5V
C191	1-126-964-11	ELECT	10uF	20%	50V
C201	1-126-933-11	ELECT	100uF	20%	10V
C202	1-136-177-00	FILM	1uF	5%	50V
C203	1-164-159-21	CERAMIC	0.1uF		50V
C204	1-102-953-00	CERAMIC	18PF	5%	50V
C205	1-102-960-00	CERAMIC	24PF	5%	50V
C206	1-164-159-21	CERAMIC	0.1uF		50V
C207	1-162-282-31	CERAMIC	100PF	10%	50V
C208	1-162-294-31	CERAMIC	0.001uF	10%	50V
C209	1-164-159-21	CERAMIC	0.1uF		50V
C210	1-164-159-21	CERAMIC	0.1uF		50V
C211	1-164-159-21	CERAMIC	0.1uF		50V
C212	1-164-159-21	CERAMIC	0.1uF		50V
C213	1-162-306-11	CERAMIC	0.01uF	30%	16V
C214	1-162-306-11	CERAMIC	0.01uF	30%	16V
C215	1-162-282-31	CERAMIC	100PF	10%	50V
C216	1-162-282-31	CERAMIC	100PF	10%	50V
C217	1-162-282-31	CERAMIC	100PF	10%	50V
C218	1-162-282-31	CERAMIC	100PF	10%	50V
C219	1-162-282-31	CERAMIC	100PF	10%	50V
C220	1-162-282-31	CERAMIC	100PF	10%	50V
C221	1-162-282-31	CERAMIC	100PF	10%	50V
C271	1-124-903-11	ELECT	1uF	20%	50V
C272	1-164-159-21	CERAMIC	0.1uF		50V
C281	1-162-282-31	CERAMIC	100PF	10%	50V
C282	1-162-282-31	CERAMIC	100PF	10%	50V (AEP, G, IT, UK, CIS)
C301	1-164-159-21	CERAMIC	0.1uF		50V (AEP, G, IT, UK)
C302	1-162-288-31	CERAMIC	330PF	10%	50V (AEP, G, IT, UK)
C303	1-164-159-21	CERAMIC	0.1uF		50V (AEP, G, IT, UK)
C304	1-126-964-11	ELECT	10uF	20%	50V (AEP, G, IT, UK)
C305	1-126-967-11	ELECT	47uF	20%	16V (AEP, G, IT, UK)
C306	1-136-177-00	FILM	1uF	5%	50V (AEP, G, IT, UK)
C307	1-164-159-21	CERAMIC	0.1uF		50V (AEP, G, IT, UK)
C308	1-126-967-11	ELECT	47uF	20%	16V (AEP, G, IT, UK)
C309	1-136-177-00	FILM	1uF	5%	50V (AEP, G, IT, UK)
C310	1-164-159-21	CERAMIC	0.1uF		50V (AEP, G, IT, UK)
C311	1-124-925-11	ELECT	2.2uF	20%	100V (AEP, G, IT, UK)
C312	1-162-291-31	CERAMIC	560PF	10%	50V (AEP, G, IT, UK)
C313	1-101-884-00	CERAMIC	56PF	5%	50V (AEP, G, IT, UK)
C314	1-101-884-00	CERAMIC	56PF	5%	50V (AEP, G, IT, UK)
C315	1-126-967-11	ELECT	47uF	20%	16V (AEP, G, IT, UK)
C316	1-164-159-21	CERAMIC	0.1uF		50V (AEP, G, IT, UK)

< FILTER >

CF1	1-579-374-71	FILTER, CERAMIC (AEP, G, IT, UK)
CF1	1-567-389-11	FILTER, CERAMIC (E, EA, TH, CIS)
CF2	1-760-393-11	FILTER, CERAMIC (AEP, G, IT, UK)
CF3	1-760-393-11	FILTER, CERAMIC (AEP, G, IT, UK)
CF3	1-567-389-11	FILTER, CERAMIC (E, EA, TH, CIS)
CF4	1-527-981-00	FILTER, CERAMIC
CF5	1-577-075-11	OSCILLATOR, CERAMIC
CF6	1-760-220-11	FILTER, CERAMIC

< CONNECTOR >

* CN2	1-568-832-11	SOCKET, CONNECTOR 13P (CIS)
CN101	1-770-158-21	HOUSING, CONNECTOR 7P (SYSTEM CONTROL)
CN102	1-568-838-11	SOCKET, CONNECTOR 21P
* CN281	1-565-561-11	PIN, CONNECTOR 3P (AU BUS)

< DIODE >

D1	8-719-815-85	DIODE 1S1585
D2	8-719-815-85	DIODE 1S1585
D3	8-719-815-85	DIODE 1S1585 (CIS)
D102	8-719-815-85	DIODE 1S1585 (AEP, G, IT, UK)
D103	8-719-815-85	DIODE 1S1585

MAIN

Ref.No.	Part No.	Description	Remark
D104	8-719-815-85	DIODE 1S1585	
D105	8-719-815-85	DIODE 1S1585	
D111	8-719-200-82	DIODE 11ES2	
D112	8-719-200-82	DIODE 11ES2	
D113	8-719-815-85	DIODE 1S1585	
D121	8-719-200-82	DIODE 11ES2	
D122	8-719-200-82	DIODE 11ES2	
D123	8-719-200-82	DIODE 11ES2	
D124	8-719-200-82	DIODE 11ES2	
D125	8-719-110-31	DIODE RD12ES-B2	
D126	8-719-200-82	DIODE 11ES2	
D127	8-719-200-82	DIODE 11ES2	
D131	8-719-921-63	DIODE MTZJ-7.5B (CIS)	
D136	8-719-109-97	DIODE RD6.8ES-B2 (CIS)	
D141	8-719-200-82	DIODE 11ES2	
D142	8-719-200-82	DIODE 11ES2	
D143	8-719-982-19	DIODE MTZJ-30A	
D161	8-719-010-34	DIODE UZ-4.7BSC	
D191	8-719-109-88	DIODE RD5.6ES-B1	
D271	8-719-815-85	DIODE 1S1585	
D281	8-719-815-85	DIODE 1S1585	
D282	8-719-815-85	DIODE 1S1585	
		< FRONTEND >	
FE1	1-693-253-21	FRONT END (4 GANG) (AEP, G, IT, UK)	
FE1	1-693-090-51	FRONT END (FM) (2 GANG) (E, EA, TH)	
FE1	1-693-244-21	FRONT END (3 GANG) (CIS)	
FE2	1-233-514-11	ENCAPSULATED COMPONENT (AEP, UK, CIS)	
FE2	1-239-634-11	ENCAPSULATED COMPONENT, AM.RF	(G, IT, E, EA, TH)
		< IC >	
IC1	8-759-176-03	IC LA1835	
IC51	8-759-288-54	IC LC72130	
IC111	8-759-231-53	IC TA7805S	
IC171	8-759-165-80	IC PST600C-T	
IC201	8-759-338-81	IC uPD78013GC-652-AB8	
IC301	8-759-634-51	IC M5218AP (AEP, G, IT, UK)	
IC302	8-759-169-99	IC SAA6579 (AEP, G, IT, UK)	
		< IFT >	
IFT1	1-409-636-11	TRANSFORMER, IF(CERAMIC FILTER)	
		< JACK >	
J101	1-770-272-11	JACK, PIN 2P (TUNER)	
		< COIL >	
L1	1-407-500-00	INDUCTOR 4.7mH	(AEP, UK, CIS)
L1	1-410-688-31	INDUCTOR 1.5mH	(G, IT, E, EA, TH)
L3	1-414-183-41	INDUCTOR 10uH	
L4	1-410-509-11	INDUCTOR 10uH	
L5	1-410-397-21	FERRITE BEAD INDUCTOR	
L6	1-410-397-21	FERRITE BEAD INDUCTOR	
L7	1-410-397-21	FERRITE BEAD INDUCTOR	
L9	1-410-509-11	INDUCTOR 10uH	(CIS)
L10	1-414-183-41	INDUCTOR 10uH	(AEP, G, IT, UK)
L101	1-410-397-21	FERRITE BEAD INDUCTOR	(AEP, G, IT, UK, CIS)
L102	1-410-397-21	FERRITE BEAD INDUCTOR	(AEP, G, IT, UK, CIS)
L103	1-410-397-21	FERRITE BEAD INDUCTOR	(AEP, G, IT, UK, CIS)
L104	1-410-397-21	FERRITE BEAD INDUCTOR	(AEP, G, IT, UK, CIS)
L105	1-410-397-21	FERRITE BEAD INDUCTOR	(AEP, G, IT, UK, CIS)
L106	1-410-397-21	FERRITE BEAD INDUCTOR	(AEP, G, IT, UK, CIS)
L107	1-410-397-21	FERRITE BEAD INDUCTOR	(AEP, G, IT, UK, CIS)
L201	1-414-189-31	INDUCTOR 100uH	
L202	1-414-189-31	INDUCTOR 100uH	
L203	1-410-521-11	INDUCTOR 100uH	
L204	1-410-521-11	INDUCTOR 100uH	
L205	1-410-521-11	INDUCTOR 100uH	
L206	1-410-521-11	INDUCTOR 100uH	
L207	1-410-521-11	INDUCTOR 100uH	
L208	1-410-521-11	INDUCTOR 100uH	
L281	1-410-509-11	INDUCTOR 10uH	(AEP, G, IT, UK, CIS)
L282	1-410-509-11	INDUCTOR 10uH	(AEP, G, IT, UK, CIS)
		< FILTER >	
LPF1	1-239-597-11	FILTER, LOW PASS	
LPF2	1-239-597-11	FILTER, LOW PASS	
		< TRANSISTOR >	
Q1	8-729-230-99	TRANSISTOR 2SC2669-OY	
Q2	8-729-230-99	TRANSISTOR 2SC2669-OY	
Q9	8-729-230-99	TRANSISTOR 2SC2669-OY	
Q10	8-729-230-99	TRANSISTOR 2SC2669-OY	
Q11	8-729-029-67	TRANSISTOR DTC114ESA-TP	(AEP, UK, CIS)
Q12	8-729-029-67	TRANSISTOR DTC114ESA-TP	(AEP, UK, CIS)
Q13	8-729-029-67	TRANSISTOR DTC114ESA-TP	(AEP, UK, CIS)
Q14	8-729-029-67	TRANSISTOR DTC114ESA-TP	(AEP, UK, CIS)
Q15	8-729-119-76	TRANSISTOR 2SA1175-HFE	(AEP, UK, CIS)
Q55	8-729-029-21	TRANSISTOR DTA114ESA-TP	
Q121	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q122	8-729-209-15	TRANSISTOR 2SD2012	
Q123	8-729-029-67	TRANSISTOR DTC114ESA-TP	
Q131	8-729-119-78	TRANSISTOR 2SC2785-HFE	(CIS)
Q136	8-729-029-21	TRANSISTOR DTA114ESA-TP	(CIS)
Q137	8-729-029-21	TRANSISTOR DTA114ESA-TP	(CIS)
Q141	8-729-118-00	TRANSISTOR 2SB1116-L	
Q142	8-729-119-76	TRANSISTOR 2SA1175-HFE	
Q201	8-729-029-67	TRANSISTOR DTC114ESA-TP	
Q271	8-729-029-21	TRANSISTOR DTA114ESA-TP	

Ref.No.	Part No.	Description				Remark
Q272	8-729-029-67	TRANSISTOR	DTC114ESA-TP			
Q281	8-729-119-78	TRANSISTOR	2SC2785-HFE			
		< RESISTOR >				
R1	1-249-411-11	CARBON	330	5%	1/4W	
R2	1-249-411-11	CARBON	330	5%	1/4W	
R3	1-247-815-91	CARBON	220	5%	1/4W	
R4	1-249-402-11	CARBON	56	5%	1/4W	
R5	1-249-411-11	CARBON	330	5%	1/4W	
R6	1-249-411-11	CARBON	330	5%	1/4W	
R7	1-249-432-11	CARBON	18K	5%	1/4W	
R8	1-249-432-11	CARBON	18K	5%	1/4W	
R11	1-249-411-11	CARBON	330	5%	1/4W	
R12	1-249-429-11	CARBON	10K	5%	1/4W	
R13	1-249-442-11	CARBON	510	5%	1/4W	
R14	1-249-403-11	CARBON	68	5%	1/4W	
R15	1-249-411-11	CARBON	330	5%	1/4W	
R16	1-249-425-11	CARBON	4.7K	5%	1/4W	
R17	1-247-842-11	CARBON	3K	5%	1/4W	
R18	1-249-429-11	CARBON	10K	5%	1/4W	
R19	1-249-429-11	CARBON	10K	5%	1/4W	
R21	1-249-429-11	CARBON	10K	5%	1/4W	
R22	1-249-437-11	CARBON	47K	5%	1/4W	
R23	1-249-399-11	CARBON	33	5%	1/4W	
R24	1-249-425-11	CARBON	4.7K	5%	1/4W	(AEP, UK, CIS)
R25	1-249-429-11	CARBON	10K	5%	1/4W	(AEP, UK, CIS)
R28	1-249-432-11	CARBON	18K	5%	1/4W	
R29	1-249-411-11	CARBON	330	5%	1/4W	
R35	1-249-417-11	CARBON	1K	5%	1/4W	
R36	1-249-417-11	CARBON	1K	5%	1/4W	
R37	1-249-411-11	CARBON	330	5%	1/4W	
R38	1-249-432-11	CARBON	18K	5%	1/4W	
R39	1-249-393-11	CARBON	10	5%	1/4W	(AEP, UK, CIS)
R39	1-249-401-11	CARBON	47	5%	1/4W	(G, IT, E, EA, TH)
R45	1-249-425-11	CARBON	4.7K	5%	1/4W	
R46	1-249-425-11	CARBON	4.7K	5%	1/4W	
R49	1-249-441-11	CARBON	100K	5%	1/4W	
R51	1-249-429-11	CARBON	10K	5%	1/4W	
R56	1-249-417-11	CARBON	1K	5%	1/4W	
R58	1-249-417-11	CARBON	1K	5%	1/4W	
R60	1-249-405-11	CARBON	100	5%	1/4W	
R61	1-249-423-11	CARBON	3.3K	5%	1/4W	
R62	1-249-425-11	CARBON	4.7K	5%	1/4W	
R63	1-249-425-11	CARBON	4.7K	5%	1/4W	
R64	1-249-425-11	CARBON	4.7K	5%	1/4W	
R65	1-249-425-11	CARBON	4.7K	5%	1/4W	
R70	1-249-425-11	CARBON	4.7K	5%	1/4W	(AEP, UK, CIS)
R71	1-249-425-11	CARBON	4.7K	5%	1/4W	
R72	1-247-807-31	CARBON	100	5%	1/4W	
⚠R111	1-217-641-00	FUSIBLE	4.7	5%	1/4W	F
⚠R121	1-217-642-81	FUSIBLE	6.8	5%	1/4W	F
R122	1-247-807-31	CARBON	100	5%	1/4W	
R123	1-249-425-11	CARBON	4.7K	5%	1/4W	
R131	1-249-421-11	CARBON	2.2K	5%	1/4W	(CIS)
R136	1-249-425-11	CARBON	4.7K	5%	1/4W	(CIS)
R137	1-249-429-11	CARBON	10K	5%	1/4W	(CIS)
R141	1-249-429-11	CARBON	10K	5%	1/4W	
R142	1-249-441-11	CARBON	100K	5%	1/4W	
R143	1-247-791-91	CARBON	22	5%	1/4W	
R161	1-249-441-11	CARBON	100K	5%	1/4W	
R162	1-249-413-11	CARBON	470	5%	1/4W	
R163	1-249-413-11	CARBON	470	5%	1/4W	
R171	1-249-417-11	CARBON	1K	5%	1/4W	
R181	1-247-807-31	CARBON	100	5%	1/4W	
R191	1-249-411-11	CARBON	330	5%	1/4W	
R201	1-249-417-11	CARBON	1K	5%	1/4W	
R202	1-249-417-11	CARBON	1K	5%	1/4W	
R203	1-249-417-11	CARBON	1K	5%	1/4W	
R204	1-249-417-11	CARBON	1K	5%	1/4W	
R205	1-249-417-11	CARBON	1K	5%	1/4W	
R206	1-249-417-11	CARBON	1K	5%	1/4W	
R207	1-249-411-11	CARBON	330	5%	1/4W	
R208	1-249-411-11	CARBON	330	5%	1/4W	
R209	1-249-411-11	CARBON	330	5%	1/4W	
R210	1-249-411-11	CARBON	330	5%	1/4W	
R212	1-249-417-11	CARBON	1K	5%	1/4W	
R213	1-249-417-11	CARBON	1K	5%	1/4W	
R214	1-249-417-11	CARBON	1K	5%	1/4W	
R215	1-249-417-11	CARBON	1K	5%	1/4W	
R216	1-249-429-11	CARBON	10K	5%	1/4W	
R217	1-249-429-11	CARBON	10K	5%	1/4W	
R222	1-247-893-11	CARBON	390K	5%	1/4W	
R224	1-249-423-11	CARBON	3.3K	5%	1/4W	
R225	1-249-423-11	CARBON	3.3K	5%	1/4W	
R226	1-249-423-11	CARBON	3.3K	5%	1/4W	
R227	1-249-441-11	CARBON	100K	5%	1/4W	
R228	1-249-441-11	CARBON	100K	5%	1/4W	
R229	1-247-807-31	CARBON	100	5%	1/4W	
R230	1-247-807-31	CARBON	100	5%	1/4W	
R231	1-249-425-11	CARBON	4.7K	5%	1/4W	
R271	1-249-429-11	CARBON	10K	5%	1/4W	
R281	1-249-429-11	CARBON	10K	5%	1/4W	
R282	1-249-425-11	CARBON	4.7K	5%	1/4W	
R283	1-249-393-11	CARBON	10	5%	1/4W	
R284	1-249-429-11	CARBON	10K	5%	1/4W	

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

MAIN PANEL

Ref. No.	Part No.	Description			Remark
R285	1-249-393-11	CARBON	10	5% 1/4W	
R301	1-249-441-11	CARBON	100K	5% 1/4W	(AEP, G, IT, UK)
R302	1-249-441-11	CARBON	100K	5% 1/4W	(AEP, G, IT, UK)
R303	1-249-441-11	CARBON	100K	5% 1/4W	(AEP, G, IT, UK)
R304	1-249-441-11	CARBON	100K	5% 1/4W	(AEP, G, IT, UK)
R305	1-249-429-11	CARBON	10K	5% 1/4W	(AEP, G, IT, UK)
R306	1-249-426-11	CARBON	5.6K	5% 1/4W	(AEP, G, IT, UK)
R308	1-249-421-11	CARBON	2.2K	5% 1/4W	(AEP, G, IT, UK)
		< VARIABLE RESISTOR >			
RV1	1-238-601-11	RES, ADJ, CARBON 22K			
RV2	1-238-600-11	RES, ADJ, CARBON 10K			
		< TERMINAL >			
TM1	1-537-488-11	TERMINAL BOARD (ANTENNA)			(AEP, G, IT, UK, CIS)
TM1	1-537-238-21	TERMINAL BOARD (ANTENNA) (E, EA, TH)			
		< VIBRATOR >			
X201	1-579-175-11	VIBRATOR, CERAMIC (10MHz)			
X202	1-567-098-41	VIBRATOR, CRYSTAL (32.768KHz)			
X301	1-579-900-21	VIBRATOR, CRYSTAL (4.332MHz)			(AEP, G, IT, UK)
XT51	1-760-549-11	VIBRATOR, CRYSTAL (4.5MHz)			
**********					
*	A-4378-851-A	PANEL BOARD, COMPLETE (E, EA, TH)			
		**********			
*	A-4378-864-A	PANEL BOARD, COMPLETE (AEP, G, IT, UK, CIS)			
		**********			
*	4-979-798-01	HOLDER (FL)			
		< CAPACITOR >			
C601	1-126-933-11	ELECT	100uF	20%	10V
C602	1-164-159-21	CERAMIC	0.1uF		50V
C603	1-104-667-11	ELECT	22uF	20%	35V
C604	1-164-159-21	CERAMIC	0.1uF		50V
C605	1-162-282-31	CERAMIC	100PF	10%	50V
C606	1-162-282-31	CERAMIC	100PF	10%	50V
C607	1-162-282-31	CERAMIC	100PF	10%	50V
C608	1-162-282-31	CERAMIC	100PF	10%	50V
C609	1-162-294-31	CERAMIC	0.001uF	10%	50V
C610	1-162-282-31	CERAMIC	100PF	10%	50V

Ref. No.	Part No.	Description			Remark
C611	1-162-282-31	CERAMIC	100PF	10%	50V
C612	1-162-282-31	CERAMIC	100PF	10%	50V
C613	1-162-282-31	CERAMIC	100PF	10%	50V
C614	1-162-282-31	CERAMIC	100PF	10%	50V
C615	1-162-282-31	CERAMIC	100PF	10%	50V
C616	1-162-282-31	CERAMIC	100PF	10%	50V
C617	1-162-282-31	CERAMIC	100PF	10%	50V
C618	1-162-282-31	CERAMIC	100PF	10%	50V
C619	1-162-282-31	CERAMIC	100PF	10%	50V
C620	1-162-282-31	CERAMIC	100PF	10%	50V
C621	1-162-282-31	CERAMIC	100PF	10%	50V
C622	1-162-282-31	CERAMIC	100PF	10%	50V
C623	1-162-282-31	CERAMIC	100PF	10%	50V
C624	1-162-282-31	CERAMIC	100PF	10%	50V
C625	1-136-173-00	FILM	0.47uF	5%	50V
C626	1-136-173-00	FILM	0.47uF	5%	50V
		< CONNECTOR >			
* CN601	1-568-864-11	SOCKET, CONNECTOR 21P			
		< DIODE >			
D601	8-719-046-44	DIODE SEL5221S (ENTER/NEXT)			
D602	8-719-046-46	DIODE SEL5221S-TH8F (MULTI CONTROLLER)			
D603	8-719-046-43	DIODE SEL5421E-TP15 (SLEEP)			
D604	8-719-046-44	DIODE SEL5221S (REC)			
D605	8-719-046-43	DIODE SEL5421E-TP15 (DAILY)			
D606	8-719-046-43	DIODE SEL5421E-TP15 (ONCE)			
		< FLUORESCENT INDICATOR >			
FL601	1-517-368-11	INDICATOR TUBE, FLUORESCENT			
		< IC >			
IC601	8-759-261-63	IC M66004M6FP			
		< COIL >			
L601	1-414-189-31	INDUCTOR	100uH		
L602	1-414-189-31	INDUCTOR	100uH		
		< TRANSISTOR >			
Q601	8-729-119-76	TRANSISTOR 2SA1175-HFE			
Q602	8-729-119-76	TRANSISTOR 2SA1175-HFE			
		< RESISTOR >			
R601	1-249-413-11	CARBON	470	5% 1/4W	
R602	1-249-415-11	CARBON	680	5% 1/4W	
R603	1-249-417-11	CARBON	1K	5% 1/4W	
R604	1-249-419-11	CARBON	1.5K	5% 1/4W	
R605	1-249-421-11	CARBON	2.2K	5% 1/4W	

Ref.No.	Part No.	Description				Remark
R606	1-249-425-11	CARBON	4.7K	5%	1/4W	
R607	1-249-413-11	CARBON	470	5%	1/4W	
R608	1-249-415-11	CARBON	680	5%	1/4W	
R609	1-249-417-11	CARBON	1K	5%	1/4W	
R610	1-249-419-11	CARBON	1.5K	5%	1/4W	
R611	1-249-421-11	CARBON	2.2K	5%	1/4W	
R612	1-249-425-11	CARBON	4.7K	5%	1/4W	
R613	1-249-415-11	CARBON	680	5%	1/4W	
R614	1-247-815-91	CARBON	220	5%	1/4W	
R615	1-247-815-91	CARBON	220	5%	1/4W	
R616	1-249-429-11	CARBON	10K	5%	1/4W	
R617	1-249-429-11	CARBON	10K	5%	1/4W	
R618	1-249-413-11	CARBON	470	5%	1/4W	
R620	1-247-807-31	CARBON	100	5%	1/4W	
R621	1-249-417-11	CARBON	1K	5%	1/4W	
R622	1-249-417-11	CARBON	1K	5%	1/4W	
R623	1-249-417-11	CARBON	1K	5%	1/4W	
R624	1-249-434-11	CARBON	27K	5%	1/4W	
R625	1-249-429-11	CARBON	10K	5%	1/4W	
		< SWITCH >				
S601	1-554-303-21	SWITCH, TACTILE (AEP, G, IT, UK:EON) (E, EA, TH, CIS:MEMORY)				
S602	1-554-303-21	SWITCH, TACTILE (AEP, G, IT, UK:PTY) (E, EA, TH, CIS:STEREO/MONO)				
S603	1-554-303-21	SWITCH, TACTILE (DISPLAY)				
S604	1-554-303-21	SWITCH, TACTILE (SLEEP)				
S605	1-554-303-21	SWITCH, TACTILE (REC)				
S606	1-554-303-21	SWITCH, TACTILE (DAILY)				
S607	1-554-303-21	SWITCH, TACTILE (TIMER SET)				
S608	1-554-303-21	SWITCH, TACTILE (ENTER/NEXT)				
S609	1-554-303-21	SWITCH, TACTILE (TUNER/BAND)				
S610	1-554-303-21	SWITCH, TACTILE (AEP, G, IT, UK:MEMORY) (E, EA, TH, CIS:PRESET)				
S611	1-554-303-21	SWITCH, TACTILE (E, EA, TH, CIS:AUTO) (AEP, G, IT, UK:TUNING MODE)				
S612	1-554-303-21	SWITCH, TACTILE (E, EA, TH, CIS:MANUAL) (AEP, G, IT, UK:STEREO/MONO)				
S613	1-554-303-21	SWITCH, TACTILE (CHARACTER)				
S614	1-554-303-21	SWITCH, TACTILE (CLOCK SET)				
S615	1-473-403-11	ENCODER, ROTARY (MULTI CONTROLLER)				
S616	1-554-303-21	SWITCH, TACTILE (ONCE)				
**********						
*	A-4389-480-A	POLAR BOARD, COMPLETE (CIS)				
		**********				
		< CAPACITOR >				
C1701	1-162-294-31	CERAMIC	0.001uF	10%	50V (CIS)	
C1702	1-130-014-00	FILM	470PF	5%	50V (CIS)	
C1703	1-124-902-00	ELECT	0.47uF	20%	50V (CIS)	
C1704	1-124-902-00	ELECT	0.47uF	20%	50V (CIS)	
C1705	1-101-006-00	CERAMIC	0.047uF		50V (CIS)	
C1706	1-124-903-11	ELECT	1uF	20%	50V (CIS)	
C1707	1-162-288-31	CERAMIC	330PF	10%	50V (CIS)	
C1710	1-137-364-11	FILM	0.001uF	5%	50V (CIS)	
C1711	1-137-364-11	FILM	0.001uF	5%	50V (CIS)	
C1712	1-130-736-11	FILM	0.01uF	5%	50V (CIS)	
C1713	1-130-736-11	FILM	0.01uF	5%	50V (CIS)	
C1714	1-124-903-11	ELECT	1uF	20%	50V (CIS)	
C1715	1-124-903-11	ELECT	1uF	20%	50V (CIS)	
C1716	1-124-903-11	ELECT	1uF	20%	50V (CIS)	
C1719	1-126-967-11	ELECT	47uF	20%	16V (CIS)	
C1720	1-162-306-11	CERAMIC	0.01uF	30%	16V (CIS)	
C1723	1-162-306-11	CERAMIC	0.01uF	30%	16V (CIS)	
C1724	1-162-306-11	CERAMIC	0.01uF	30%	16V (CIS)	
C1725	1-126-967-11	ELECT	47uF	20%	16V (CIS)	
C1726	1-124-903-11	ELECT	1uF	20%	50V (CIS)	
C1727	1-124-903-11	ELECT	1uF	20%	50V (CIS)	
C1728	1-126-966-11	ELECT	33uF	20%	16V (CIS)	
		< CONNECTOR >				
* CN1701	1-568-832-11	SOCKET, CONNECTOR 13P (CIS)				
		< TRIMMER >				
CT1701	1-141-260-00	CAP, TRIMMER 50PF (CIS)				
		< DIODE >				
D1701	8-719-815-85	DIODE 1S1585 (CIS)				
D1703	8-719-815-85	DIODE 1S1585 (CIS)				
D1704	8-719-815-85	DIODE 1S1585 (CIS)				
D1705	8-719-815-85	DIODE 1S1585 (CIS)				
		< IC >				
IC1701	8-759-063-04	IC IR3R42 (CIS)				
IC1703	8-759-140-53	IC uPD4053BC (CIS)				
		< COIL >				
L1701	1-409-497-11	COIL (FILTER) (CIS)				
		< TRANSISTOR >				
Q1701	8-729-029-21	TRANSISTOR DTA114ESA-TP (CIS)				
Q1702	8-729-029-67	TRANSISTOR DTC114ESA-TP (CIS)				
Q1704	8-729-029-67	TRANSISTOR DTC114ESA-TP (CIS)				
		< RESISTOR >				
R1701	1-249-432-11	CARBON	18K	5%	1/4W (CIS)	
R1702	1-249-435-11	CARBON	33K	5%	1/4W (CIS)	
R1703	1-249-427-11	CARBON	6.8K	5%	1/4W (CIS)	
R1704	1-247-858-11	CARBON	13K	5%	1/4W (CIS)	

POLAR

Ref. No.	Part No.	Description			Remark
R1705	1-249-417-11	CARBON	1K	5%	1/4W (CIS)
R1706	1-249-417-11	CARBON	1K	5%	1/4W (CIS)
R1707	1-249-441-11	CARBON	100K	5%	1/4W (CIS)
R1708	1-249-440-11	CARBON	82K	5%	1/4W (CIS)
R1709	1-249-439-11	CARBON	68K	5%	1/4W (CIS)
R1710	1-249-429-11	CARBON	10K	5%	1/4W (CIS)
R1711	1-249-429-11	CARBON	10K	5%	1/4W (CIS)
R1714	1-249-426-11	CARBON	5.6K	5%	1/4W (CIS)
R1715	1-249-426-11	CARBON	5.6K	5%	1/4W (CIS)
R1716	1-249-441-11	CARBON	100K	5%	1/4W (CIS)
R1717	1-249-441-11	CARBON	100K	5%	1/4W (CIS)
R1718	1-249-429-11	CARBON	10K	5%	1/4W (CIS)
R1719	1-249-429-11	CARBON	10K	5%	1/4W (CIS)
R1721	1-249-434-11	CARBON	27K	5%	1/4W (CIS)
R1722	1-249-441-11	CARBON	100K	5%	1/4W (CIS)
		< VARIABLE RESISTOR >			
RV1701	1-238-600-11	RES, ADJ, CARBON 10K (CIS)			
RV1702	1-238-599-11	RES, ADJ, CARBON 4.7K (CIS)			
		< TEST PIN >			
* TP1701	1-560-061-00	PIN, CONNECTOR 3P (CIS)			
* TP1702	1-560-061-00	PIN, CONNECTOR 3P (CIS)			
		**********			
		MISCELLANEOUS			
		**********			
15	1-773-144-11	WIRE (FLAT TYPE) (21 CORE)			
17	1-751-688-11	WIRE (FLAT TYPE) (13 CORE) (CIS)			
FL601	1-517-368-11	INDICATOR TUBE, FLUORESCENT			
		**********			
		ACCESSORIES & PACKING MATERIALS			
		**********			
*	4-980-539-01	CUSHION (UPPER)			
*	4-980-540-01	CUSHION (LOWER)			
		**********			
		**********			
		HARDWARE LIST			
		**********			
#1	7-685-646-79	SCREW +BVTP 3X8 TYPE2 N-S			
#2	7-685-647-79	SCREW +BVTP 3X10 TYPE2 N-S			

9-960-499-11

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ST-EX100

SONY

SERVICE MANUAL

AEP Model
UK Model
E Model

SUPPLEMENT-1

File this supplement with the service manual.

Subject: SERVICING NOTE ADDITION

Switching the Channel Step 9 kHz/10 kHz

1. Turn off the power of the unit.
2. While pressing the ENTER/NEXT button, press the SYSTEM POWER button of the amplifier section to turn on the power.

The value switches between 9 kHz and 10 kHz steps each time the above is carried out.

NOTE:
1) Take note not to switch the above when not required.
2) This switching cannot be performed when power is supplied using service box (PFJ-1).

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Home A&V Products Company

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